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EXAMINER	
WONG, ALLEN C	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/762,736	Applicant(s) LAINEMA ET AL.	
	Examiner Allen Wong	**Art Unit** 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *33-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 8/6/09 have been fully read and considered but they are not persuasive.

The 35 U.S.C. 101 rejection to claims 33-34, 37-38 and 41 is withdrawn, as the amendment to these claims refer to a machine since decoding is performed by a machine such as a decoder and claims 37-38 refer to the implementation of a computer. Claims 37-38 are objected to minor informalities in that at line 1, the term “containing” should be changed to “encoded with”, “embodied with”, “having an encoded” or “storing” for clearly and positively reciting the computer readable medium is encoded with a computer program for execution by a computer.

Regarding lines 13-15 and lines 25-26 on page 6 of applicant's remarks, applicant states that the combined teachings of Nieweglowski and Yagasaki would not lead one to obtain "determining an accuracy of motion coefficients based on the prediction error quantizer”. The examiner respectfully disagrees. One of ordinary skill in the art has to consider the combination of the references as a whole, not as individual teachings. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Nieweglowski discloses, in figure 2, that element 22 determines the prediction error quantizer from the encoded video information. Niewglowski does not disclose determining an accuracy of motion coefficients.

However, in column 13, lines 24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data. Thus, Yagasaki discloses determining the accuracy of the motion coefficients.

The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements, as suggested in Yagasaki's column 3, lines 54-61.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Regarding lines 1-5 on page 7 of applicant's remarks, applicant states that Nieweglowski does not mention "receiving information indicating a motion coefficient quantizer", "accuracy", "quantizer" or "quantization". The examiner respectfully

disagrees. In figure 5, Nieweglowski discloses the motion field coder discloses the "motion coefficient" data produced in motion field coder that includes data with quantization or QR values determined. See line 14 on page 8 to line 9 on page 9. Thus, Nieweglowski discloses receiving information indicating a motion coefficient quantizer.

Although the term "quantizer" is not explicitly stated in the reference, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. In figure 5, Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems. Thus, Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems.

Nieweglowski does not disclose determining the accuracy of the motion coefficients. However, in column 13, lines 24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data. Thus, Yagasaki discloses determining the accuracy of the motion coefficients. Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately,

efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements, as suggested in Yagasaki's column 3, lines 54-61.

Regarding lines 15-16 on page 7 of applicant's remarks, applicant states that Nieweglowski does not disclose the concept of quantization. The examiner respectfully disagrees. The concept of quantization is considered to be inherent in the art of MPEG video encoding/decoding standard in that during the encoding of images, discrete cosine transform is performed to differentiate the DC coefficients and the AC coefficients, then the quantization is applied to quantize the video data (ie.DC coefficients) into a format for preparation for variable length coding or entropy coding for transporting the compressed video data to the decoder terminal for high quality image display. Although the term "quantizer" is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. In figure 5, Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems. Thus, Yagasaki also discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems. Thus, quantization and quantizers are inherent in MPEG video encoding standard.

Regarding lines 16-18 and lines 19-21 on page 8 of applicant's remarks, applicant asserts that Nieweglowski does not textually disclose quantizer information. The examiner respectfully disagrees. Again, the examiner has already explained this issue in the above paragraphs and in the rejection below. In figure 5, Nieweglowski discloses the motion field coder discloses the “motion coefficient” data produced in motion field coder that includes data with “quantization” or “QR” values determined. See line 14 on page 8 to line 9 on page 9. Thus, Nieweglowski discloses receiving information indicating a motion coefficient quantizer. The concept of quantization is considered to be inherent in the art of MPEG video encoding/decoding standard in that during the encoding of images, discrete cosine transform is performed to differentiate the DC coefficients and the AC coefficients, then the quantization is applied to quantize the video data (ie.DC coefficients) into a format for preparation for variable length coding or entropy coding for transporting the compressed video data to the decoder terminal for high quality image display. Although the term “quantizer” is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. In figure 5, Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems. Thus, Yagasaki also discloses the use of

quantization for obtaining quantization parameter data in MPEG encoding/decoding systems. Thus, quantization and quantizers are inherent in MPEG video encoding standard. The concept of quantization and quantizers is not a patentable feature since MPEG encoding has been around long before the applicant filed this current patent application.

Regarding lines 18-23 on page 9 of applicant's remarks, applicant states that the prior art teachings of Nieweglowski and Yagasaki does not disclose the relationship between the accuracy of the motion coefficients and the operation of a prediction error quantizer, no discussion of a process of quantization of motion vectors or error quantization in conjunction with a relationship with accuracy. The examiner respectfully disagrees. In figure 2, Nieweglowski discloses from figure 1, element 3 is the motion field coding section that produces the "motion coefficients" that are multiplexed and sent to the decoder of figure 2, where element 21 obtains the motion coefficient data of the picture segment data. Nieweglowski's figure 5 discloses a motion field coder with quantization or QR values determined. See line 14 on page 8 to line 9 on page 9. Thus, Nieweglowski discloses determining the prediction error quantizer, the motion coefficients representing the motion of a picture segment. Nieweglowski does not disclose determining an accuracy of the motion coefficients. However, in column 13, lines 24-36, Yagasaki asserts the determination of the range of the accuracy values of the motion vector data that comprises motion coefficients data, and that decoder shown in Yagasaki's figure 5 decodes the data as coded in the encoder embodiment of figure 4A-4B, and that figure 7 shows the degree of accuracy of motion vector S55, including

motion coefficient data, is included with the VLC coded data at output of element 17 of figure 4B along with the quantized data output (comprises the predicted error quantizer) of element 15 of figure 4A. Thus, Yagasaki teaches the determination of the accuracy of the motion coefficients, and Yagasaki also teaches the relationship between the accuracy of the motion coefficients and the operation of a prediction error quantizer.

The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements, as suggested in Yagasaki's column 3, lines 54-61.

Regarding line 26 on page 9 to line 2 on page 10 of applicant's remarks, applicant states that Yagasaki does not disclose the matter of motion coefficients, of accuracy based on prediction error quantization. The examiner respectfully disagrees. In figure 2, Nieweglowski discloses from figure 1, element 3 is the motion field coding section that produces the "motion coefficients" that are multiplexed and sent to the decoder of figure 2, where element 21 obtains the motion coefficient data of the picture segment data. Nieweglowski's figure 5 discloses a motion field coder with quantization

or QR values determined. See line 14 on page 8 to line 9 on page 9. Thus, Nieweglowski discloses determining the prediction error quantizer, the motion coefficients representing the motion of a picture segment. Nieweglowski does not disclose determining an accuracy of the motion coefficients. However, in column 13, lines 24-36, Yagasaki asserts the determination of the range of the accuracy values of the motion vector data that comprises motion coefficients data, and that decoder shown in Yagasaki's figure 5 decodes the data as coded in the encoder embodiment of figure 4A-4B, and that figure 7 shows the degree of accuracy of motion vector S55, including motion coefficient data, is included with the VLC coded data at output of element 17 of figure 4B along with the quantized data output (comprises the predicted error quantizer) of element 15 of figure 4A. Thus, Yagasaki teaches the determination of the accuracy of the motion coefficients, and Yagasaki also teaches the relationship between the accuracy of the motion coefficients and the operation of a prediction error quantizer.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413,

208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding lines 7-10 on page 9 of applicant's remarks, applicant asserts that Nieweglowski and Yagasaki cannot be combined because there is no motivation to combine. The examiner respectfully disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements, as suggested in Yagasaki's column 3, lines 54-61.

Thus, the rejection of the claims is maintained.

Claim Objections

Claims 37-38 are objected to because of the following informalities: in line 1, the term "containing" should be changed to "encoded with", "embodied with", "having an encoded" or "storing" for clearly and positively reciting the computer program is encoded into the computer readable medium for execution by a computer. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 33-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nieweglowski (WO 97/16025) in view of Yagasaki (5,428,396).

Regarding claim 33, Nieweglowski discloses a method for decoding encoded video information, the method comprising:

determining, via a decoder, a prediction error quantizer from encoded video information, the prediction error quantizer used to quantize prediction error transform coefficients (fig.2, Nieweglowski's element 22 determines the prediction error quantizer from the encoded video information as obtained from the encoder shown in fig.1, see page 2, lines 1-7, and that in fig.2, the output of the video information is "decoded video" is the decoded video information outputted by a decoder); and

determining the prediction error quantizer, the motion coefficients representing the motion of a picture segment (fig.2, note, from fig.1, element 3 is the motion field coding section that produces the "motion coefficients" that are multiplexed and sent to the decoder of fig.2, where element 21 obtains the motion coefficient data of the picture segment data, and that fig.5 discloses a motion field coder with quantization or

QR values determined, see line 14 on page 8 to line 9 on page 9); and

decoding encoded video information into an image based on the prediction error (fig.2, Nieweglowski's element 22 determines the prediction error quantizer from the encoded video information as obtained from the encoder shown in fig.1, see page 2, lines 1-7, and that in fig.2, the output of the video information is "decoded video" is the decoded video information outputted by a decoder based on the prediction error decoding performed by element 22).

Although the term "quantizer" is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Nieweglowski does not disclose determining an accuracy of the motion coefficients. However, Yagasaki teaches the determination of the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the

teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Regarding claim 34, Nieweglowski discloses receiving information indicating a motion coefficient quantizer (fig.5, note the motion field coder discloses the “motion coefficient” data produced in motion field coder that includes data with quantization or QR values determined; see line 14 on page 8 to line 9 on page 9). Nieweglowski does not disclose determining the accuracy of the motion coefficients. However, Yagasaki discloses determining the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Although the term “quantizer” is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization

parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Regarding claim 35, Nieweglowski discloses a decoder for decoding encoded video information, the decoder comprising:

a demultiplexing unit for determining a prediction error quantizer from the encoded video information, the prediction error quantizer used to quantize the prediction error transform coefficients (fig.2, note the “multiplexer” used in Nieweglowski’s fig.2 suppose to function as a demultiplexer since the data obtained from the encoder of fig.1 has a multiplexer for sending data to the decoder embodiment of fig.2, clearly the “multiplexer” in fig.2 is a typo, and is suppose to be a demultiplexer since data obtained by the “multiplexer” or demultiplexer clearly demultiplexes or divide data into two components: encoded prediction error data sent to element 22 and motion data sent to element 21); and

a motion field coding block for determining the prediction error quantizer, the motion coefficients representing the motion of a picture segment (fig.2, note, from fig.1, element 3 is the motion field coding section that produces the “motion coefficients” that are multiplexed and sent to the decoder of fig.2, where element 21 obtains the motion coefficient data of the picture segment data, and that fig.5 discloses a motion field coder with quantization or QR values determined, see line 14 on page 8 to line 9 on page 9).

Although the term “quantizer” is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Nieweglowski does not disclose determining an accuracy of the motion coefficients. However, Yagasaki teaches the determination of the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Regarding claim 36, Nieweglowski discloses determining signaling information indicating a motion coefficient quantizer from to obtain the coefficients from the encoded video information (fig.5, note the motion field coder discloses the “motion coefficient” data produced in motion field coder that includes data with quantization or QR values

determined; see line 14 on page 8 to line 9 on page 9). Nieweglowski does not disclose selecting the accuracy of the motion coefficients. However, Yagasaki discloses determining and selecting the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Although the term “quantizer” is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Regarding claim 37, Nieweglowski discloses a computer readable storage medium containing a computer program which, upon execution by a computer, directs the computer to perform the method of:

decoding encoded video information (fig.2 is the decoder for decoding encoded video information);

determining a prediction error quantizer from the encoded video information, the prediction error quantizer used to quantize the prediction error transform coefficients (fig.2, Nieweglowski's element 22 determines the prediction error quantizer from the encoded video information as obtained from the encoder shown in fig.1, see page 2, lines 1-7); and

determining the motion coefficients based on the prediction error quantizer, the motion coefficients representing the motion of a picture segment (fig.2, note, from fig.1, element 3 is the motion field coding section that produces the "motion coefficients" that are multiplexed and sent to the decoder of fig.2, where element 21 obtains the motion coefficient data of the picture segment data, and that fig.5 discloses a motion field coder with quantization or QR values determined, see line 14 on page 8 to line 9 on page 9).

Although the term "quantizer" is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an

accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Nieweglowski does not disclose determining an accuracy of the motion coefficients. However, Yagasaki teaches the determination of the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Regarding claim 38, Nieweglowski discloses receiving information indicating motion coefficient quantizer (fig.2, element 21 receives the motion coefficient quantizer information as encoded from fig.1, wherein fig.5, note the motion field coder discloses the “motion coefficient” data produced in motion field coder that includes data with quantization or QR values determined; see line 14 on page 8 to line 9 on page 9). Nieweglowski does not disclose determining the accuracy of the motion coefficients. However, Yagasaki discloses determining the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of

Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Although the term “quantizer” is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Regarding claim 39, Nieweglowski discloses an apparatus comprising a decoder for decoding encoded video information, wherein the decoder comprises:

an inverse quantization unit for determining a prediction error quantizer from motion coefficients of the encoded video information, the prediction error quantizer serving to quantize prediction error transform coefficients (fig.2, Nieweglowski’s element 22 determines the prediction error quantizer from the encoded video information as obtained from the encoder shown in fig.1, see page 2, lines 1-7, wherein element 22 must inherently discloses an inverse quantizer for inversely quantizing data as encoded

by “Predictive Error Coding” from figure 1, as the use of quantizers and inverse quantizers are inherent in the art of MPEG); and

determining the prediction error quantizer, the motion coefficients representing the motion of a picture segment (fig.2, note, from fig.1, element 3 is the motion field coding section that produces the “motion coefficients” that are multiplexed and sent to the decoder of fig.2, where element 21 obtains the motion coefficient data of the picture segment data, and that fig.5 discloses a motion field coder with quantization or QR values determined, see line 14 on page 8 to line 9 on page 9).

Although the term “quantizer” is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Nieweglowski does not disclose a further quantization unit for determining an accuracy of the motion coefficients. However, Yagasaki teaches the determination of the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that

contains motion coefficients data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Regarding claim 40, Nieweglowski does not disclose comprising a connection from the decoder to the further quantization unit for communication of information of the prediction error quantizer from the encoded video information for use in the determining of the accuracy of the motion coefficients. However, Yagasaki teaches the connection from the decoder to the further quantization unit for communication of information of the prediction error quantizer from the encoded video information for use in the determining of the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data, and wherein fig.5, Yagasaki discloses there is two-way communication between the decoder 52 and the quantization unit 55, wherein the quantization parameter information is extracted for obtaining the prediction error quantizer data from the encoded video data so that the accuracy of the motion vector data that contains motion coefficients data can be ascertained). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Although the term “quantizer” is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Regarding claim 41, Nieweglowski does not disclose wherein, in the determining of the accuracy of the motion coefficients, there is a communication of information of the prediction error quantizer from the encoded video information for use in the determining of the accuracy of the motion coefficients. However, Yagasaki teaches wherein, in the determining of the accuracy of the motion coefficients, there is the communication of information of the prediction error quantizer from the encoded video information for use in the determining of the accuracy of the motion coefficients (col.13, ln.24-36, Yagasaki discloses the determination of the range of the accuracy values of the motion vector data that contains motion coefficients data, and wherein fig.5, Yagasaki discloses there is two-way communication between the decoder 52 and the quantization unit 55, wherein the quantization parameter information is extracted for obtaining the prediction

error quantizer data from the encoded video data so that the accuracy of the motion vector data that contains motion coefficients data can be ascertained). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Nieweglowski and Yagasaki, as a whole, for accurately, efficiently encoding and decoding image data while maintaining high image quality and minimizing hardware requirements (Yagasaki col.3, ln.54-61).

Although the term "quantizer" is not explicitly stated in the Nieweglowski, however, in MPEG video encoding/decoding standard, the use of quantizers is considered an inherent feature, if not, then an extremely obvious feature since MPEG encoders/decoders are known to use DCTs and quantization parameters for encoding/decoding image data so as to properly encode/decode and transmit video image data for efficiently encoding, decoding and displaying video image data in an accurate manner. Yagasaki discloses the use of quantization for obtaining quantization parameter data in MPEG encoding/decoding systems (fig.5, note Yagasaki discloses element 55 is an inverse quantizer and that fig.4A, element 15 is the quantizer, thus, quantization is known to be used for MPEG encoding/decoding systems).

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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11/23/09